**La Paz Community School**

**Grade 9 Science Syllabus**

**Teacher:** Sean Murray

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**Course Description:** In this course, students will be introduced to the process of scientific inquiry to explore natural phenomena. Students will investigate topics from a broad field of sciences, including Environmental Science, Chemistry, Physics, and Biology. Specific areas of focus will be explored through class discussions, hands-on laboratory activities, projects, multimedia, and field trips. In addition, students will learn to organize, display and analyze data in scientific studies.

**Course Goals:**

1. Understand the process of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.
2. Understand the fundamental concepts, principles, and interconnections of the life, physical and earth/space sciences.
3. Understand the relationships among science, technology and society in historical and contemporary contexts.

**Course Outline:**

* **Trimester 1:** 
  + Ambassadors of Peace- (Weeks 1-2) – Science & Self
    - *Introduction to class, syllabus, expectations*
    - *Individual Presentation - How does science have an impact on your daily life?*
  + Sustainability (Weeks 3-8) – Water Sources
    - *Introduction to water sources and water uses; water cycle*
    - *Human Uses of and Impacts on Water Sources Group Presentation*
    - *Freshwater and Watershed Health Project (Rios Saludables)*
    - *Trip to ROW – Fundraising Activity*
  + Origins (Weeks 9-14) – Biogeochemical Cycles
    - *Review of chemistry (atoms, elements, ions)*
    - *Introduction to Biogeochemical Cycles*
    - *Individual projects on importance of biogeochemical cycles*
* **Trimester 2:** 
  + Land & Sea (Weeks 15-19) Physical & Chemical Characteristics of the Ocean
    - *Introduction to Physical & Chemical Oceanography*
    - *Beach Comparison Project – Day Trip to Local Beach*
    - *Lab Experiment – Relationship between Temperature, Density, Salinity, Pressure*
  + Wellness (Weeks 20-25)
    - *Infectious diseases*
    - *Vaccines*
    - *Human Reproduction*
* **Trimester 3:**
  + Energy (Weeks 26-32) – Electricity & Magnetism
    - *Review of atomic structure*
    - *Physics of electricity, equations and calculations*
    - *Electrical Circuits and Potato Battery Inquiry*
    - *Phenomenal Physics Group Video Project*
  + Creative Expression (Weeks 32-38) – Application of Science
    - *Introduction to Biochemistry and Nutrition*
    - *Using chemistry to create a sports beverage group project*
    - *SCIENCE FAIR!*

**Grades:**

*Please know you be will graded on the following in science:*

* + - Daily in-class work, daily homework, warm-up/reflections, participation, other small assignments
* Quizzes, informal labs, multi-day assignments, small papers, mini-projects/presentations
* Tests, formal labs, formal papers, major projects/presentations

**Across grade levels, student work and social development is assessed with a grading rubric from zero to four (0 = No evidence, 1 = Emerging, 2 = Developing, 3 = Proficient, 4 = Exemplary). Please see the student handbook for further information.**

**Classroom Expectations**

*Rules are made to be broken while expectations are designed to be met.*

**1.) Be Proactive**: Students must take responsibility for their classroom performance and behavior. We give you the tools to be successful but it’s up to you to reach your potential in the course. Don’t wait until the end of Trimester 1 to care. You’ll be amazed how far a little effort will go. Take responsibility for your learning. I encourage you to come see me if you have any questions or concerns!

**2**.) **Be Prepared**: This includes being on time to class, turning in homework on time, bringing appropriate materials to class, and being ready to learn every day. Stay organized! You must turn in all of your assignments the day they are due. If you do not have your homework at the beginning of class, it is a 0. You are not allowed to go get it in your cubby; you are not allowed to print it. You must have it in class. (Please note: if you need to print it you must do so before class—either before school or during a school break.) If you are absent and it is excused, then it is your responsibility to go to the Science page on La Paz wiki, and/or talk to one of your classmates to find out what you missed. You work must be turned in the day you return to school.

**3.) Be Honest:** We all have instances where we are not fully prepared for class. Do not resort to

plagiarizing your paper, copying lab write-ups or cheating on the exam. Students caught cheating will receive a zero on the assignments and be documented for academic dishonesty.

**4.) Be Involved:** Besides excessive absence, being lazy in the classroom is one of the worst things you can do to your grade in my course. Get involved in class discussions and participate in the lab activities. Ask questions. You’ll find that time passes much faster when you are engaged instead of simply staring at the clock for 70 minutes.

**5.) Be Respectful:** Be respectful of your instructor, your classmates and other people’s property. It’s simple—treat others the way that you would like to be treated. Following this simple rule makes our classroom a safe place to have honest discussion and share opinions.

**6.) Be Creative:** There will be opportunity on projects to showcase your talents. Making the content your own makes it much more interesting and has been proven to increase your retention rate. Find out how you learn best and your grade will only improve.

**7.) Be Straightforward:** Life happens outside of the classroom. If there is an issue outside of the

classroom that takes precedence over science class, please let me know. Your well-being, happiness,

safety and family come before school. Keep me informed and we’ll work things out.

**8.) Be Present**: It’s no big surprise that students who chronically miss school also miss out on a lot of valuable information. By all means… if you’re sick, stay home. Otherwise, get to class. You’ll find that exams are much more manageable when you learn and experience concepts along with your classmates.

**9.) Be A Scientist:** Take in new information, analyze it and draw your own conclusions. Don’t accept

the world at face value. Learning to critically analyze things you see on TV or read in the newspaper makes you an educated member of society. Always ask “Why?”